

7. Evaluate each expression. Show as much work as necessary.

a. $7 + (3 \div 2)$

$$7 + 1.5 = 8\frac{1}{2}$$

b. $2[1 + 3(4 - 2) \div 2 + 4]$

$$\begin{aligned} 2 \div 2 &= 1 + 4 = 5 \\ 5 + 4 &= 9 \\ 9 \times 2 &= 18 \end{aligned}$$

Original student work on Algebra 1 test question from the timed portion of the test.

c. $2 \cdot 3^2 - 12 \div 3 + 3$

$$2 \cdot 9 - 12 \div 3 + 3$$

$$18 - 4 + 3$$

$$14 + 3 = 17$$

d. $5(7 - 4) - 6^2 \div 3 + 1$

$$5 \cdot 3 - 36 \div 3 + 1$$

$$15 - 12 + 1$$

$$3 + 1 = 4$$

Supercorrection Form

Name: _____

7 Convince me that you now understand the concept. Make connections and build on the problem if possible; be sure to explain the error(s) that you made.
Original score 3 out of 4 Supercorrection score 1 out of 4 (student to fill in these two scores with their best estimate from the rubric)

Rubric score of 1: Correct answer with working.

Correct solution:

$$2[1+3(4-2)\div 2+4]$$

$$3 \times 2 = 6 \div 2 = 3 + 4 = 7 + 1 = 8 \times 2 = 16$$

7 Convince me that you now understand the concept. Make connections and build on the problem if possible; be sure to explain the error(s) that you made.
Original score 3 out of 4 Supercorrection score 2 out of 4 (student to fill in these two scores with their best estimate from the rubric)

I forgot PEMDAS!

Rubric score of 2: Correct answer with working and some explanation.

Correct solution:

$$2[1+3(4-2)\div 2+4]$$

$$= 2[1+3+4]$$

$$= 16$$

Supercorrection Form

Name: _____

7 Convince me that you now understand the concept. Make connections and build on the problem if possible; be sure to explain the error(s) that you made.
Original score 3 out of 4 Supercorrection score 3 out of 4 (student to fill in these two scores with their best estimate from the rubric)

The order of operations goes

- ① Parentheses
- ② Exponents
- ③ Multiplication/Division from left to right.
- ④ Addition/Subtraction from left to right.

I must not have followed the correct order!

Correct solution:

$$\begin{aligned}
 & 2[1 + 3(4-2) \div 2 + 4] \\
 &= 2[1 + 6 \div 2 + 4] \\
 &= 2[1 + 3 + 4] \\
 &= 16
 \end{aligned}$$

Rubric score of 3: Correct answer with working and good explanation.

7 Convince me that you now understand the concept. Make connections and build on the problem if possible; be sure to explain the error(s) that you made.
Original score 3 out of 4 Supercorrection score 4 out of 4 (student to fill in these two scores with their best estimate from the rubric)

According to Apple/Google/Microsoft, the answer is 16. I didn't follow the order of operations correctly. I did the first part right - $(4-2)$ is 2 - but then I divided by 2 instead of multiplying by 3. In the work below, I have pretended to be a photocopier like Mr. O'Brien suggested. ☺ On tests and quizzes I'll do this next time.

Correct solution:

$$\begin{aligned}
 & 2[1 + 3(\underline{4-2}) \div 2 + 4] && \text{Parentheses - Subtract} \\
 &= 2[1 + \underline{3(2)} \div 2 + 4] && \text{Multiply} \\
 &= 2[1 + \underline{6 \div 2} + 4] && \text{Divide} \\
 &= 2[\underline{1+3} + 4] && \text{Add} \\
 &= 2[\underline{4+4}] && \text{Add} \\
 &= \underline{2[8]} && \text{Multiply} \\
 &= 16
 \end{aligned}$$

In Parentheses!

Rubric score of 4: Correct answer with working and explanation that convinces me you completely understand the question and your mistake. [Note: if the answer to this beautiful working ended up wrong (perhaps multiplying 2 and 8 and getting 10?) it would score a 0 on the rubric!!! So, be sure to check your answer with someone else...]